Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

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1. (Currently Amended) A method for communicating between a user terminal and multiple stratospheric transponder platforms comprising the following steps:

maintaining the stratospheric transponder platforms in a substantially fixed position with respect to a user terminal antenna coupled to a user terminal so that the user terminal antenna does not have to track the stratospheric platforms; and

communicating separate communications signals between the user terminal and at least two of the stratospheric transponder platforms concurrently.

2. (Previously Presented) The method of Claim 1 wherein the user terminal communicates with at least two of the stratospheric transponder platforms using the same frequency band.

3. (Original) The method of Claim 1 wherein the user terminal communicates with one of the at least two of the stratospheric transponder platforms at a first data rate and with another of the at least two of the stratospheric transponder platforms at a second data rate.

4. (Previously Presented) A method for communicating between a user terminal and multiple stratospheric transponder platforms comprising the following steps:

maintaining the stratospheric transponder platforms in a substantially fixed position with respect to a user terminal antenna coupled to a user terminal; and

communicating between the user terminal and at least two of the stratospheric transponder platforms concurrently,

wherein the user terminal communicates with a first Internet router via one of the at least two of the stratospheric transponder platforms and with a second Internet router via another of the at least two of the stratospheric transponder platforms.

5. (Previously Presented) A method for communicating between a user terminal and multiple stratospheric transponder platforms comprising the following steps:

maintaining the stratospheric transponder platforms in a substantially fixed position with respect to a user terminal antenna coupled to a user terminal; and

communicating between the user terminal and at least two of the stratospheric transponder platforms concurrently,

wherein the user terminal communicates with a first media service provider via one of the at least two of the stratospheric transponder platforms and with a second media service provider via another of the at least two of the stratospheric transponder platforms.

6. (Currently Amended) A communications system for communicating between a user terminal and multiple stratospheric transponder platforms comprising:

a user terminal antenna coupled to a user terminal; and

a plurality of stratospheric transponder platforms having a substantially fixed position with respect to the user terminal antenna for communicating separate communications signals between the user terminal and each of the plurality of stratospheric transponder platforms concurrently, the position with respect to the user terminal antenna being such that said user terminal antenna does not have to track the stratospheric platforms.

7. (Original) The communications system of Claim 6 wherein the user terminal antenna communicates with at least two of the plurality of stratospheric transponder platforms using the same frequency band.

8. (Original) The communications system of Claim 6 wherein the user terminal antenna communicates with one of the plurality of stratospheric transponder platforms at a first data rate and with another of the plurality of stratospheric transponder platforms at a second data rate.

9. (Previously Presented) A communications system for communicating between a user terminal and multiple stratospheric transponder platforms comprising:

a user terminal antenna coupled to a user terminal; and

a plurality of stratospheric transponder platforms having a substantially fixed position with respect to the user terminal antenna for communicating between the user terminal and each of the plurality of stratospheric transponder platforms concurrently,

wherein the user terminal antenna communicates with one of a plurality of Internet routers via one of the plurality of stratospheric transponder platforms and with another of the plurality of Internet routers via another of the plurality of stratospheric transponder platforms.

10. (Previously Presented) A communications system for communicating between a user terminal and multiple stratospheric transponder platforms comprising:

a user terminal antenna coupled to a user terminal; and

a plurality of stratospheric transponder platforms having a substantially fixed position with respect to the user terminal antenna for communicating between the user terminal and each of the plurality of stratospheric transponder platforms concurrently,

wherein the user terminal antenna communicates with one of a plurality of communications service providers via one of the plurality of stratospheric transponder platforms and with another of the plurality of communications service providers via another of the plurality of stratospheric transponder platforms.

11. (Previously Presented) A communications system for communicating between a user terminal and multiple stratospheric transponder platforms comprising:

a user terminal antenna coupled to a user terminal; and

a plurality of stratospheric transponder platforms having a substantially fixed position with respect to the user terminal antenna for communicating between the user terminal and each of the plurality of stratospheric transponder platforms concurrently,

wherein the user terminal antenna comprises:

b'

a single antenna reflector having a focal length and a focal point;

and at least two feedhorns coupled to the single antenna reflector for forming multiple beams.

12. (Original) The communications system of Claim 11 wherein the at least two feedhorns are coupled to the single antenna reflector at a distance substantially equal to the focal length and are offset from the focal point by a distance selected to form the multiple beams.

13. (Original) The communications system of Claim 11 wherein the multiple beams are equally spaced.

14. (Original) The communications system of Claim 11 wherein one of the at least two feedhorns is a stepped feedhorn.

15. (Original) The communications system of Claim 11 wherein one of the at least two feedhorns is a stepped and tapered feedhorn.

16. (Original) The communications system of Claim 11 wherein at least one of the multiple beams has a half-power beam width substantially equal to twice an orbit angle subtended by a stratospheric platform.

17. (Original) The communications system of Claim 11 wherein the stratospheric transponder platforms have a platform spacing selected to maintain a signal-to-interference ratio of at least 20 dB.

18. (Original) The communications system of Claim 11 wherein the stratospheric transponder platforms have an orbit diameter selected to maintain the stratospheric transponder platforms respectively near a peak of each of the multiple beams.

19. (Original) The communications system of Claim 11 wherein the multiple beams have a spacing such that the signal-to-interference ratio between beams is at least 20 dB.

20. (Currently Amended) A method for communicating between a user terminal and multiple stratospheric transponder platforms comprising the following steps:

maintaining a plurality of stratospheric transponder platforms at a substantially constant platform altitude, platform spacing, and platform orbit diameter and positioned with respect to an user terminal antenna coupled to the user terminal such that the user terminal antenna does not have to track the stratospheric platforms; and

communicating separate communications signals between each of the plurality of stratospheric transponder platforms and [[a]] the user terminal on multiple beams concurrently via [[a]] the user terminal antenna coupled to the user terminal.

21. (Original) The method of Claim 20 wherein the step of communicating comprises communicating between the user terminal and each of the plurality of stratospheric transponder platforms using the same frequency band.

22. (Previously Presented) A method for communicating between a user terminal and multiple stratospheric transponder platforms comprising the following steps:

maintaining a plurality of stratospheric transponder platforms at a substantially constant platform altitude, platform spacing, and platform orbit diameter; and

communicating between each of the plurality of stratospheric transponder platforms and a user terminal on multiple beams concurrently via a user terminal antenna coupled to the user terminal, and

further comprising the step of separating the multiple beams such that the signal-to-interference ratio between any two of the multiple beams is at least 20 dB.

23. (Previously Presented) A method for communicating between a user terminal and multiple stratospheric transponder platforms comprising the following steps:

maintaining a plurality of stratospheric transponder platforms at a substantially constant platform altitude, platform spacing, and platform orbit diameter; and

communicating between each of the plurality of stratospheric transponder platforms and a user terminal on multiple beams concurrently via a user terminal antenna coupled to the user terminal, and

wherein the platform spacing is at least two half-power beam widths.

24. (Previously Presented) A method for communicating between a user terminal and multiple stratospheric transponder platforms comprising the following steps:

maintaining a plurality of stratospheric transponder platforms at a substantially constant platform altitude, platform spacing, and platform orbit diameter; and

communicating between each of the plurality of stratospheric transponder platforms and a user terminal on multiple beams concurrently via a user terminal antenna coupled to the user terminal, wherein the step of communicating comprises communicating between the user terminal and each of the plurality of stratospheric transponder platforms using the same frequency band, and

wherein the platform orbit diameter is selected to maintain each of the stratospheric transponder platforms near a peak of the multiple beams respectively.

25. (Previously Presented) A communication system comprising:

at least one gateway hub;

an user terminal antenna with a reflector; and

a plurality of transponder platforms arranged in a substantially fixed formation relative to the user terminal antenna, for transmitting communications signals between the gateway hub and the user terminal antenna,

wherein each of the plurality of transponder platforms has a platform orbit and a platform separation determined by a desired signal-to-interference power ratio, and

wherein the reflector has a diameter such that each of the plurality of transponder platforms is substantially always near the peak of a respective beam of the reflector.

26. (Previously Presented) The communication system of Claim 25, wherein an axis of the user terminal antenna points in the direction of a point at the center of the substantially fixed formation of the plurality of transponder platforms.

27. (Previously Presented) The communication system of Claim 25, wherein the platform orbit of each of the plurality of transponder platforms is small compared to a platform altitude.

28. (Previously Presented) The communication system of Claim 27, wherein the user terminal antenna is a single reflector multiple beam antenna.

29. (Previously Presented) The communication system of Claim 28, wherein each of the plurality of transponder platforms has an orbit angle subtended by the respective platform orbit at the respective platform altitude, and a respective half-power beam width of the single reflector multiple beam antenna is about twice the respective orbit angle when viewed from the single reflector multiple beam antenna.

30. (Previously Presented) The communication system of Claim 29, wherein the platform separation is at least twice a half-power beam width (HPBW) of the single reflector multiple beam antenna.

31. (Previously Presented) The communication system of Claim 30, wherein a beam spacing of the user terminal is at least twice the HPBW.

32. (Previously Presented) The communication system of Claim 25, wherein the plurality of transponder platforms comprises four transponder platforms arranged in a square formation relative to the user terminal antenna and the platform separation between any two of the four transponder platforms on a side of the square is about 10 km and the four transponder platforms are at an altitude of about 20km.

33. (Previously Presented) The communication system of Claim 32, wherein a diameter of the platform orbit is about 2 km.

34. (Previously Presented) The communication system of Claim 25, wherein the platform separation is increased to achieve a higher signal-to-interference power ratio and decreased to achieve a lower signal-to-interference power ratio.

35. (Previously Presented) The communication system of Claim 25, wherein the user terminal antenna and at least one router of a plurality of Internet routers communicate via one of the plurality of transponder platforms and the at least one gateway hub and the user terminal antenna and at least another router of the plurality of Internet routers communicate via another of the plurality of transponder platforms and the at least one gateway hub.

36. (Previously Presented) The communication system of Claim 35, wherein the user terminal antenna communicates with the at least one router and at least another router concurrently.

37. (Previously Presented) The communication system of Claim 25 wherein the at least one gateway hub interfaces to communications signal sources having separate data rates.

38. (Previously Presented) The communication system of Claim 25 wherein the at least one gateway hub interfaces with multiple communications service providers for communicating on multiple channels with the user terminal antenna concurrently using a same frequency band.

39. (Previously Presented) The communication system of Claim 25, wherein the user terminal antenna and one provider of a plurality of communications service providers communicate via one of the plurality of transponder platforms and the user terminal antenna and another provider of the plurality of communications service providers communicate via another of the plurality of transponder platforms concurrently.

40. (Previously Presented) The communication system of Claim 25, wherein the reflector comprises a single reflector having a focal length and a focal point; and

the user terminal antenna further comprises at least two feedhorns coupled to the single reflector for forming multiple beams.

41. (Previously Presented) The communication system of Claim 40, wherein the at least two feedhorns are coupled to the single reflector at a distance and offset from the focal point by a distance to form the multiple beams.

42. (Previously Presented) The communication system of Claim 40, wherein the multiple beams are equally spaced.

43. (Previously Presented) The communication system of Claim 40, wherein at least one of the at least two feedhorns is a stepped feedhorn.

44. (Previously Presented) The communication system of Claim 40, wherein at least one of the at least two feedhorns is a stepped and tapered feedhorn.

45. (Previously Presented) The communication system of Claim 25 wherein the plurality of transponder platforms comprise satellites.

46. (Previously Presented) The communication system of Claim 25 wherein the plurality of transponder platforms comprises unmanned aircraft.

47. (Previously Presented) The communication system of Claim 25 wherein the plurality of transponder platforms comprises antenna towers.

48. (Previously Presented) A communication system comprising:

an user terminal;

an user terminal antenna coupled to the user terminal; and

a plurality of transponder platforms arranged relative to the user terminal antenna, each of the plurality of transponder platforms having a platform orbit that is small compared to a platform altitude, and a platform separation determined by a desired signal-to-interference ratio,

the user terminal antenna comprising a reflector, the platform orbit of each of the plurality of transponder platforms being near the peak of a beam of the reflector, and

wherein an axis of the user terminal antenna points in the direction of a point between the plurality of transponder platforms such that the user terminal antenna is capable of receiving and transmitting separate communications signals concurrently via at least two of the plurality of transponder platforms without having to track the at least two of the plurality of transponder platforms.

49. (Previously Presented) The communication system of Claim 48, wherein the user terminal antenna is a single reflector multiple beam antenna.

50. (Previously Presented) The communication system of Claim 48, wherein the user terminal comprises a separate single beam reflector antenna for each of the plurality of transponder platforms.

51. (Previously Presented) The communication system of Claim 49, wherein each of the plurality of transponder platforms has an orbit angle subtended by the respective platform orbit at the respective platform altitude, and a respective half-power beam width (HPBW) of the single reflector multiple beam antenna is about twice the respective orbit angle when viewed from the single reflector multiple beam antenna.

52. (Previously Presented) The communication system of Claim 51, wherein the platform separation is at least twice the HPBW of the single reflector multiple beam antenna.

53. (Previously Presented) The communication system of Claim 48, wherein the plurality of transponder platforms comprises four transponder platforms arranged in a square formation and the platform separation between any two of the four transponder platforms on a side of the square is about 10 km and the platform altitude is about 20km.

54. (Previously Presented) The communication system of Claim 53, wherein a diameter of the platform orbit is about 2 km.

55. (Previously Presented) The communication system of Claim 52, wherein a beam spacing of the user terminal antenna is at least twice the HPBW.

56. (Previously Presented) The communication system of Claim 48, wherein the platform separation is increased to achieve a higher signal-to-interference ratio and decreased to achieve a lower signal-to-interference ratio.

57. (Previously Presented) The communication system of Claim 48, wherein the user terminal antenna and one router of a plurality of Internet routers communicate via one platform of the plurality of transponder platforms and the user terminal antenna and another router of the plurality of Internet routers communicate via another platform of the plurality of transponder platforms.

58. (Previously Presented) The communication system of Claim 48, further comprising at least one gateway hub, and wherein the user terminal antenna and one provider of a plurality of communications service providers communicate via one platform of the plurality of transponder platforms and at least one gateway hub and the user terminal antenna and another provider of the plurality of communications service providers communicate via another platform of the plurality of transponder platforms and the at least one gateway hub.

59. (Previously Presented) The communication system of Claim 58, wherein the communications between the user terminal antenna and the one provider and the another provider take place concurrently.

60. (Previously Presented) The communication system of Claim 48, further comprising at least one gateway hub and wherein the plurality of transponder platforms relay a plurality of separate communications signals concurrently between the user terminal antenna and the at least one gateway hub.

61. (Previously Presented) A method of communicating multiple communication signals between at least one gateway hub, via multiple transponder platforms, and at least one user terminal coupled to at least one user terminal antenna with a reflector, comprising:

arranging the multiple transponder platforms in a substantially fixed formation relative to the user terminal antenna having a platform separation selected to achieve a desired signal-to-interference ratio, and

selecting a size of the reflector such that a platform orbit of each of the multiple transponder platforms is substantially always near the peak of a beam of the reflector.

62. (Previously Presented) The method of Claim 61, further comprising arranging the multiple transponder platforms so as to have a spatial diversity suitable for relaying the multiple communication signals using the same frequency band.

63. (Previously Presented) The method of Claim 61, further comprising transmitting the multiple communication signals at multiple data rates from the at least one gateway hub.

64. (Previously Presented) The method of Claim 63, wherein transmitting the multiple communication signals at multiple data rates comprises interfacing the at least one gateway hub to communications signal sources having separate data rates.

65. (Previously Presented) The method of Claim 64, further comprising transmitting the multiple communication signals concurrently using the same frequency band.

66. (Previously Presented) The method of Claim 61, further comprising pre-amplifying the multiple communication signals received at the at least one user terminal antenna.

67. (Previously Presented) The method of Claim 66, wherein the pre-amplifying comprises pre-amplifying in the at least one user terminal antenna.

68. (Previously Presented) The method of Claim 61, further comprising amplifying transmitted multiple communciation signals transmitted from the at least one user terminal antenna.

69. (Previously Presented) The method of Claim 68, wherein the amplifying comprises amplifying in the at least one user terminal antenna.

70. (Previously Presented) The method of Claim 66, further comprising separating the multiple communication signals received by the at least one user terminal antenna.

71. (Previously Presented) The method of Claim 68, further comprising mixing the multiple communication signals transmitted from the at least one user terminal antenna.

72. (Previously Presented) The method of Claim 61, further comprising concurrently providing communication signals from an Internet via multiple Internet routers through the at least one gateway hub and respective multiple transponder platforms to the at least one user terminal.

73. (Previously Presented) The method of Claim 68, wherein the step of concurrently providing comprises interfacing the at least one gateway hub to the Internet via the multiple Internet routers.

74. (Previously Presented) The method of Claim 73, further comprising, in the event of failure of one of the multiple transponder platforms or one of the multiple Internet routers, communicating with the other ones of the multiple transponder platforms or multiple Internet routers.

75. (Previously Presented) The method of Claim 61, wherein the multiple communications signals are received by the at least one user terminal antenna on multiple channels from separate communications service providers.

76. (Previously Presented) The method of Claim 75, wherein the multiple communications signals are received by the at least one user terminal antenna from separate communications service providers by interfacing the at least one gateway hub to the separate communications service providers.

77. (Previously Presented) The method of Claim 76 wherein the multiple communications signals are received by the at least one user terminal at the same frequency band.

78. (Previously Presented) A single reflector multiple beam antenna for forming multiple beams for a stratospheric transponder platform communication system comprising:

the reflector having a diameter (D) given by the equation:

$D=65\lambda$ / HPBW, where λ is a wavelength, and HPBW is a half-power beam width of the antenna which is a function of an orbit angle subtended by an orbit of the stratospheric transponder platform at a platform altitude;

an antenna mount, the reflector being mounted at an end of the antenna mount and having a focal point;

a beam spacing mount mounted at another end of the antenna mount opposite to the reflector;

at least two feedhorns positioned on the beam spacing mount displaced from the focal point of the reflector by an offset;

an antenna mast supporting the antenna mount, and

a tilt arm for adjusting a tilt angle of the antenna mount.

79. (Previously Presented) The antenna of Claim 78, wherein the HPBW is approximately twice the orbit angle.

80. (Previously Presented) The antenna of Claim 78, wherein the at least two feedhorns are each capable of forming separate beams pointed respectively at at least two stratospheric transponder platforms